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FLOOD INSURANCE STUDY

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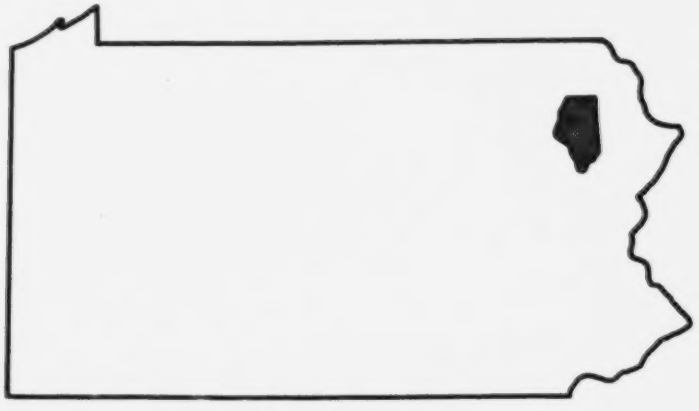
TOWNSHIP OF SOUTH ABINGTON, PENNSYLVANIA
LACKAWANNA COUNTY



JUNE 15, 1982

Federal Emergency Management Agency

COMMUNITY NUMBER - 421758

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PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index

Flood Insurance Rate Map

FLOOD INSURANCE STUDY
TOWNSHIP OF SOUTH ABINGTON, PENNSYLVANIA

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Township of South Abington, Lackawanna County, Pennsylvania, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study will be used to convert South Abington to the regular program of flood insurance by the Federal Emergency Management Agency (FEMA). Local and regional planners will use this study in their efforts to promote sound flood plain management.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these federally-supported studies are based. These criteria take precedence over the minimum federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 44 CFR, 60.3. In such cases, however, it shall be understood that the state (or other jurisdictional agency) shall be able to explain these requirements and criteria.

1.2 Authority and Acknowledgements

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were prepared by Betz-Converse-Murdoch, Inc., for the Federal Emergency Management Agency, under Contract No. H-4815. This work was completed in December 1979.

1.3 Coordination

An initial Consultation and Coordination Officer's (CCO) meeting was held in May 1978, attended by representatives of the FEMA, Betz-Converse-Murdoch, Inc. (the study contractor) and the Township of South Abington. During the investigation several contacts were made with township officials to obtain information. The Susquehanna River Basin Commission (SRBC) was also contacted for information pertinent to this study.

On February 25, 1981, the results of this study were reviewed at the final CCO meeting attended by representatives of the FEMA, the Township of South Abington and the study contractor.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the Township of South Abington, Lackawanna County, Pennsylvania. The area of study is shown on the Vicinity Map (Figure 1).

Leggetts Creek was studied by detailed methods for a distance of 1.64 miles from the City of Scranton - Township of South Abington corporate limits to the Interstate 81 entrance overpass. Summit Lake Creek was studied by detailed methods 3550' upstream of the confluence with Lackawanna Trail Tributary for a distance of 0.60 miles to the Northeast Extension of the Pennsylvania Turnpike. Lackawanna Trail Tributary was studied by detailed methods for 1.03 miles from its confluence with Leggetts Creek to the Borough of Clarks Summit - Township of South Abington corporate limits. A total of 3.27 miles of stream was studied by detailed methods. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction for the next five years, through December 1984.

The remaining portions of Summit Lake Creek and Leggetts Creek, Summit Lake and Gravel Pond as well as several tributaries to each were studied by approximate methods. Approximate methods of analysis were used to study those areas having low development potential and minimal flood hazards as identified at the initiation of the study. The scope and methods of study were proposed to and agreed upon by the FEMA.

2.2 Community Description

The Township of South Abington is located in northwest Lackawanna County, in northern Pennsylvania, approximately 8 miles north of Scranton, Pennsylvania. It is bounded by the Boroughs of Clarks Green and Clarks Summit, the Townships of Glenburn, Abington and North Abington on the north, the Borough of Dickson City and the Township of Scott on the east, the City of Scranton on the south and the Township of Newton on the south and west. The total land area of the Township of South Abington is 9.2 square miles. According to the U. S. Census Bureau, the population was 3,616 in 1970 and is estimated by the Lackawanna County Regional Planning Commission to reach 5,735 by 1985 (Reference 1). The township is traversed by many highways, with most development centered along State Routes 6 and 11 (the Lackawanna Trail). Leggetts Creek and Lackawanna

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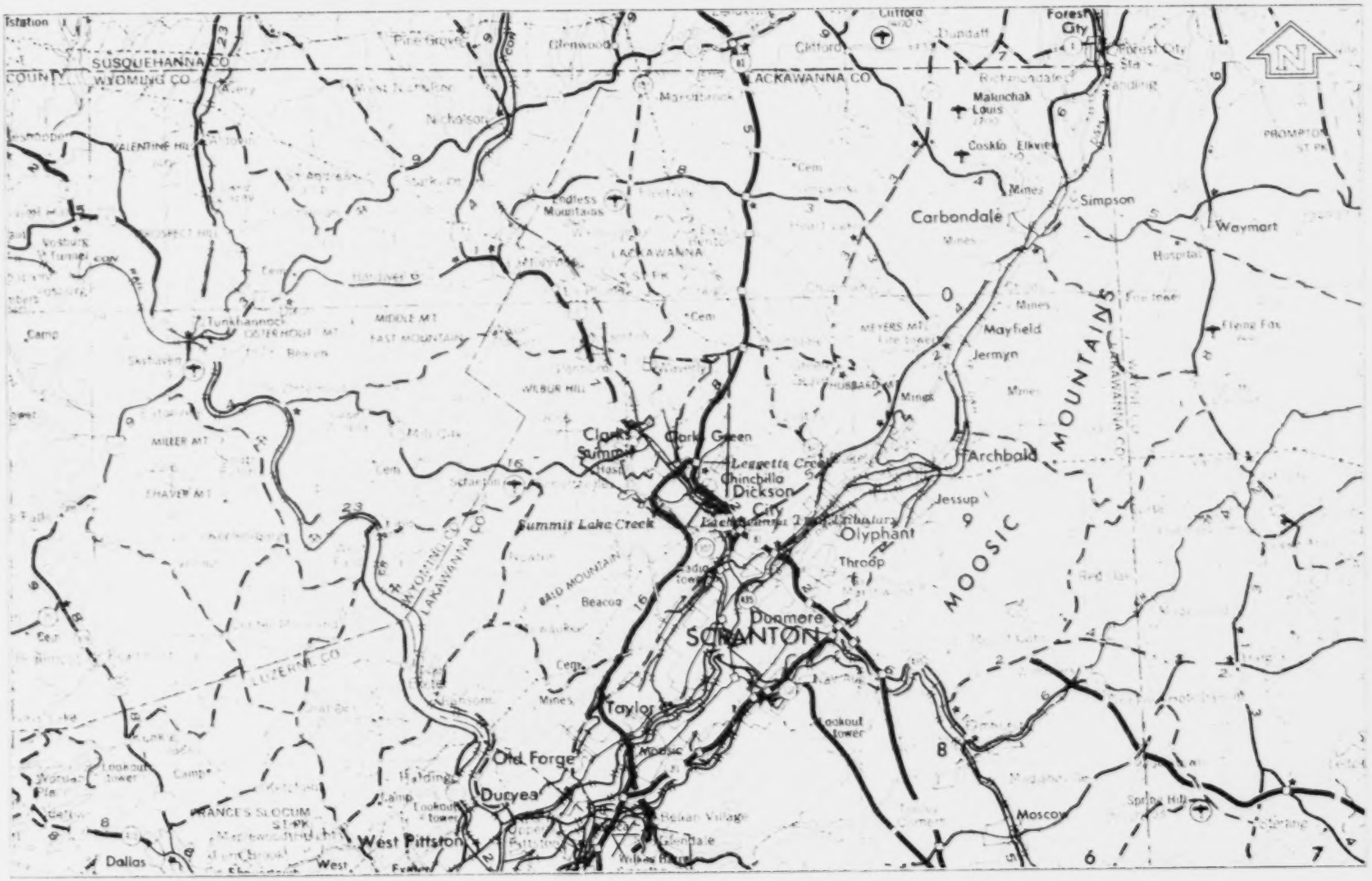

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

APPROXIMATE SCALE

4 0 4 8 12 MILES

VICINITY MAP

Trail Tributary parallel this route while Summit Lake Creek branches west towards Summit Lake in the more rural portion of the township. Leggetts Creek has its headwaters in the eastern part of the township, which is also rural and forms a protected watershed for drinking water supply. The topography shows fairly steep hills with wide flood plains, portions of which are heavily developed.

The climate in northern Pennsylvania is characteristically humid continental. Average summer and winter temperatures range from 66.8 degrees Fahrenheit (°F) to 24.7°F, respectively. Annual average precipitation of the region is 37 inches with an average recorded snowfall of 39.9 inches. The precipitation is fairly uniformly distributed throughout the year (Reference 2).

2.3 Principal Flood Problems

The history of flooding on the streams within the township indicates that flooding may occur during any season of the year, but most flooding occurs during February, March, April and May as a result of spring rains and snowmelt. Storms occurring during the late summer months are often associated with tropical storms moving up the Atlantic coastline.

The major flooding problems within the Township of South Abington exist along State Routes 6 and 11. The drainage course in and above the Chinchilla area has been greatly altered. Nearly 75 percent of the length of Lackawanna Trail Tributary has been placed in culverts or walled channels, which frequently overflow. Portions of Leggetts Creek have been channelized and this creek frequently floods the adjacent low-lying properties.

2.4 Flood Protection Measures

There are no structural or non-structural flood protection measures within the Township of South Abington.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data for this study. Flood events of a magnitude which are expected to be equalled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance premium rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equalled or exceeded during any year. Although the recurrence interval represents the

long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than one year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (one-percent chance of annual occurrence) in any 50-year period is about 40 percent (four in ten) and, for any 90-year period, the risk increases to about 60 percent (six in ten). The analyses reported here reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each flooding source studied in detail affecting the community.

The flood flows for Leggetts Creek were determined using the method outlined in U. S. Geological Survey (USGS) Bulletin No. 13 (Reference 3).

The flood flows for Lackawanna Trail Tributary and Summit Lake Creek were obtained from the Flood Insurance Studies of the Borough of Clarks Summit and the City of Scranton (References 4 and 5). The final flow estimates are based on hydrologic computations using the Soil Conservation Service (SCS) runoff curve number method. Sub-areas were delineated and times of concentration were calculated for each sub-area. These and other data were the input for the TR-20, the computerized SCS runoff method (Reference 6).

In determining discharges for Leggetts Creek downstream of the confluence of Lackawanna Trail Tributary, coincident peak flows were assumed for Summit Lake Creek, Lackawanna Trail Tributary and the upper reach of Leggetts Creek. This was based on the analysis of the relative timing of the peak floods for each stream.

A summary of drainage area-peak discharge relationships for the streams studied by detailed methods is shown in Table 1, "Summary of Discharges."

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
LEGGETTS CREEK					
At the downstream corporate limits	13.71	2,055	4,120	5,320	9,030

TABLE 1 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
SUMMIT LAKE CREEK					
Upstream of Maple Lake	2.68	325	795	1,085	2,445
LACKAWANNA TRAIL TRIBUTARY					
At confluence with Leggetts Creek	1.54	740	1,570	2,020	3,300

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the flooding sources studied in detail were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each of these flooding sources.

Cross section data for the streams studied by detailed methods were obtained from field measurements of the below-water sections and photogrammetry of the above-water sections. Cross sections were selected so that between each cross section, the change in water-surface elevation would not be greater than 10 feet. Selected structures, including bridges, culverts and dams with the potential of controlling flood elevations were field surveyed to obtain elevation data and structural geometry.

Roughness coefficients (Manning's "n") were estimated on the basis of recent aerial and ground-level photographs of the structures, floodplains and stream channels, as well as engineering judgment. The channel "n" values for Leggetts Creek ranged from 0.040 to 0.050 and the overbank "n" values ranged from 0.070 to 0.100. For Lackawanna Trail Tributary, the channel "n" values ranged from 0.030 to 0.040 and the overbank roughness values ranged from 0.040 to 0.080. For Summit Lake Creek, the channel "n" value was 0.030 and the flood plain roughness value was 0.100.

Water-surface profiles were developed using the HEC-2 standard step-backwater computer model (Reference 7). The starting water-surface elevations for Leggetts Creek were obtained from the Flood Insurance Study for the City of Scranton, Pennsylvania (Reference 5). Starting water-surface elevations for Lackawanna Tributary were computed from backwater calculations of Leggetts Creek. Starting water-surface elevations for Summitt Creek were calculated by critical depth computations.

For the areas studied by approximate methods, the U. S. Geological Survey (USGS) depth versus drainage area curves were used to approximate the depth of the 100-year flood.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals. Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway is computed (Section 4.2), selected cross-section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 3).

All elevations used in this study are referenced to the National Geodetic Vertical Datum of 1929 (NGVD), formerly referred to as Sea Level Datum of 1929. Locations of the elevation reference marks used in the study are shown on the maps.

The hydraulic analyses for this study are based on the effects of unobstructed flow. The flood elevations shown on the profiles are valid only if hydraulic structures remain unobstructed and do not fail.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the FEMA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For the stream studied in detail, the boundaries of the 100- and 500-year floods have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:4,800 with a contour interval of 5 feet (Reference 8). In cases where the 100- and 500-year flood boundaries are close together, only the 100-year boundary has been shown.

Boundaries of the 100-year flood for the streams studied by approximate methods were delineated using topographic maps at a scale of 1:24,000 and a contour interval of 20 feet, in conjunction with the Flood Hazard Boundary Map for the Township of South Abington (References 9 and 10).

The boundaries of the 100- and 500-year floods are shown on the Flood Boundary and Floodway Map (Exhibit 3). Small areas within the flood boundaries may lie above the flood elevations and, therefore, may not be subject to flooding. Owing to limitations of the map scale and lack of detailed topographic data, such areas are not shown.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity, increases the flood heights of streams, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100- year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment in order that the 100-year flood can be carried without substantial increases in flood heights. Minimum standards of the FEMA limit such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this report are presented to local agencies as minimum standards that can be adopted or that can be used as a basis for additional studies.

The floodways presented in this study were computed on the basis of equal conveyance reduction from each side of the flood plains. The results of these computations are tabulated at selected cross sections for each stream segment for which a floodway is computed (Table 2).

As shown on the Flood Boundary and Floodway Map (Exhibit 3), the floodway widths were determined at cross sections; between cross sections, the boundaries were interpolated. In cases where the boundaries of the floodway and the 100-year flood are either close together or collinear, only the floodway boundary has been shown. Portions of the floodway widths on Leggetts Creek extend beyond the corporate limits.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY	INCREASE
Leggetts Creek								
A	0[1]	67[3]	450	11.8	982.3	982.3	982.6	0.3
B	1,575[1]	50	396	13.4	1,006.6	1,006.6	1,007.0	0.4
C	2,600[1]	84	604	8.8	1,019.9	1,019.9	1,020.7	0.8
D	2,736[1]	187	928	5.7	1,031.9	1,031.9	1,032.8	0.9
E	3,451[1]	134	937	5.7	1,035.9	1,035.9	1,036.9	1.0
F	4,091[1]	52	372	14.3	1,043.2	1,043.2	1,043.5	0.3
G	4,451[1]	207	652	8.2	1,051.0	1,051.0	1,051.0	0.0
H	5,556[1]	79	512	10.4	1,059.8	1,059.8	1,060.4	0.6
I	6,321[1]	51	207	7.5	1,066.9	1,066.9	1,067.5	0.6
J	6,606[1]	35	155	10.1	1,069.7	1,069.7	1,070.3	0.6
K	7,016[1]	52	214	7.3	1,073.6	1,073.6	1,074.4	0.8
L	7,341[1]	33	135	11.6	1,078.4	1,078.4	1,078.7	0.3
M	8,221[1]	50	190	8.2	1,090.7	1,090.7	1,091.4	0.7
N	8,656[1]	45	160	9.7	1,096.5	1,096.5	1,096.6	0.1
Summit Lake Creek								
A	3,920[2]	75	405	3.6	1,253.5	1,253.5	1,254.4	0.9
B	4,725[2]	25	120	9.0	1,256.4	1,256.4	1,257.0	0.6

[1]Feet above corporate limits
[2]Feet above confluence with Lackawanna Trail Tributary
[3]Width extends beyond corporate limits

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

FLOODWAY DATA

LEGGETTS CREEK AND SUMMIT LAKE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Summit Lake Creek (continued)								
C	5,180[1]	30	102	10.6	1,262.5	1,262.5	1,262.5	0.0
D	6,650[1]	24	71	9.8	1,285.4	1,285.4	1,285.4	0.0
Lackawanna Trail Tributary								
A	15[2]	59	252	8.0	1,065.3	1,061.1[3]	1,062.1	1.0
B	392[2]	205	893	2.3	1,071.5	1,071.5	1,072.5	1.0
C	1,400[2]	160	451	4.5	1,080.1	1,080.1	1,081.0	0.9
D	1,817[2]	81	530	3.8	1,087.5	1,087.5	1,088.2	0.7
E	2,192[2]	70	557	3.6	1,094.4	1,094.4	1,094.4	0.0
F	2,481[2]	109	275	6.3	1,099.1	1,099.1	1,099.4	0.3
G	2,696[2]	80	223	7.5	1,100.9	1,100.9	1,101.5	0.6
H	2,966[2]	80	220	7.6	1,103.5	1,103.5	1,104.5	1.0
I	3,156[2]	62	204	9.1	1,105.8	1,105.8	1,106.7	0.9
J	3,356[2]	35	203	9.2	1,106.3	1,106.3	1,107.3	1.0
K	3,571[2]	77	205	9.1	1,110.4	1,110.4	1,111.0	0.6

[1]Feet above confluence with Lackawanna Trail Tributary

[2]Feet above confluence with Leggetts Creek

[3]Elevation computed without consideration of backwater effects from Leggetts Creek

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

FLOODWAY DATA

SUMMIT LAKE CREEK AND LACKAWANNA TRAIL TRIBUTARY

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Lackawanna Trail Tributary (continued)								
L	4,161	72	185	9.2	1,122.1	1,122.1	1,122.2	0.1
M	4,341	66	164	8.7	1,130.2	1,130.2	1,131.0	0.8
N	4,541	82	218	6.6	1,133.1	1,133.1	1,134.0	0.9
O	4,631	87	267	5.3	1,134.0	1,134.0	1,134.8	0.8
P	4,881	100	291	3.4	1,135.2	1,135.2	1,135.9	0.7
Q	5,156	60	122	8.0	1,137.9	1,137.9	1,138.8	0.9
R	5,356	100	288	3.4	1,140.1	1,140.1	1,140.8	0.7
S	5,516	47	130	7.6	1,141.6	1,141.6	1,142.1	0.5

[1]Feet above confluence with Leggetts Creek

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

FLOODWAY DATA

LACKAWANNA TRAIL TRIBUTARY

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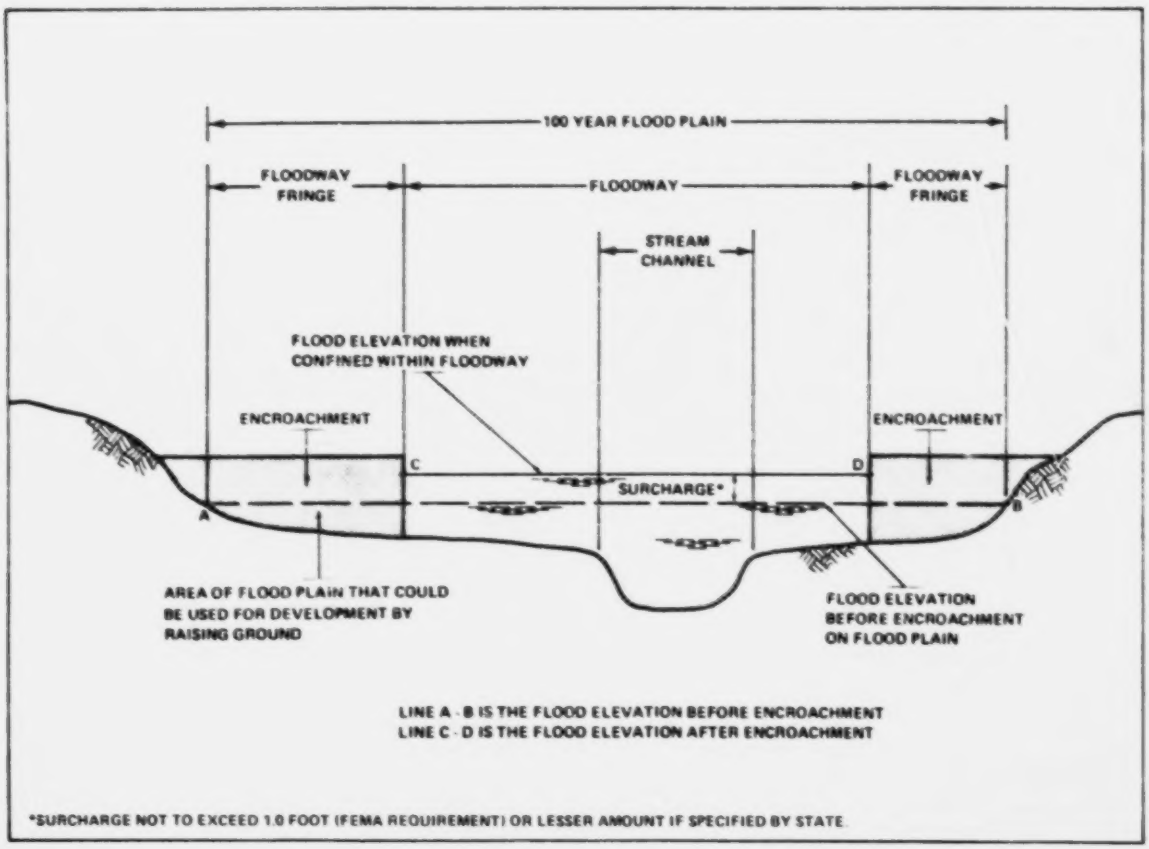
100 YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE A - B IS THE FLOOD ELEVATION BEFORE ENCROACHMENT
LINE C - D IS THE FLOOD ELEVATION AFTER ENCROACHMENT
*SURCHARGE NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE.

FLOODWAY SCHEMATIC Figure 2

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, "With Floodway" elevations presented in Table 2 for certain downstream cross sections of Lackawanna Trail Tributary are lower than the regulatory flood elevations in that area, which must take into account the 100-year flooding due to backwater from other sources.

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, the FEMA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors (FHFs), and flood insurance zone designations for each flooding source affecting the Township of South Abington.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface

elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach.

Average Difference Between 10- and 100-Year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the flooding sources of the Township of South Abington are shown on the Flood Profiles (Exhibit 1) and are summarized in the Flood Insurance Zone Data Table (Table 3).

5.2 Flood Hazard Factors

The FHF is the FEMA device used to correlate flood information with insurance rate tables. Correlations between property damage from floods and their FHFs are used to set actuarial insurance premium rate tables based on FHFs from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest 0.5 foot, and shown as a three-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year water-surface elevations is greater than 10.0 feet, accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHFs, the entire incorporated area of the Township of South Abington was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations:

Zone A: Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations shown or FHFs determined.

Zones A2, A4, A6 and A12: Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations shown, and zones subdivided according to FHF.

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Leggetts Creek							
Reach 1	06	-3.1	-0.9	+2.3	030	A6	Varies
Reach 2	06	-1.1	-0.3	+0.9	010	A2	Varies
Summit Lake Creek							
Reach 1	06	-2.2	-0.7	+2.2	020	A4	Varies
Lackawanna Trail Tributary							
Reach 1	06	-1.2	-0.3	+0.7	010	A2	Varies
Reach 2	06	-3.2	-0.8	+2.2	030	A6	Varies
Reach 3	06	-6.2	-2.0	+0.5	060	A12	Varies
Reach 4	06	-3.2	-0.5	+0.7	030	A6	Varies
Reach 5	06	-1.2	-0.3	+0.8	010	A2	Varies

[1]Flood Insurance Rate Map Panel
[2]Weighted Average
[3]Rounded to the nearest foot - see map

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

FLOOD INSURANCE ZONE DATA

LEGGETTS CREEK, SUMMIT LAKE CREEK AND LACKAWANNA TRAIL TRIBUTARY

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Zone B: Areas between the Special Flood Hazard Area and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; also, areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.

Zone C: Areas of minimal flooding.

Table 3, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHFs, flood insurance zones, and base flood elevations for the flooding sources studied in detail in the Township of South Abington.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the Township of South Abington is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the FEMA.

6.0 OTHER STUDIES

Flood Insurance Studies have been published for the contiguous communities of the Borough of Clarks Summit and the City of Scranton (References 4 and 5). When completed, this study will exactly match the results of those published studies. There are no other studies relating to flooding within the Township of South Abington.

This study is authoritative for purposes of the Flood Insurance Program, and the data presented here either supersede or are compatible with previous determinations.

7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic, and other pertinent data used in this study can be obtained by contacting the office of the Insurance and Mitigation Division

of the Federal Emergency Management Agency, Regional Director, Region III Office, Curtis Building, Room 700, Sixth and Walnut Streets, Philadelphia, Pennsylvania 19106.

8.0 BIBLIOGRAPHY AND REFERENCES

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REACH 1
ZONE A6

CORPORATE LIMITS

US ROUTES 6 AND 11

DAM

ELEVATION IN FEET (NGVD)

1060
1050
1040
1030
1020
1010
1000
990
980
970

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CORPORATE LIMITS

A B C D E F G

LEGEND

500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
CROSS SECTION LOCATION

FLOOD PROFILES

LEGGETTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

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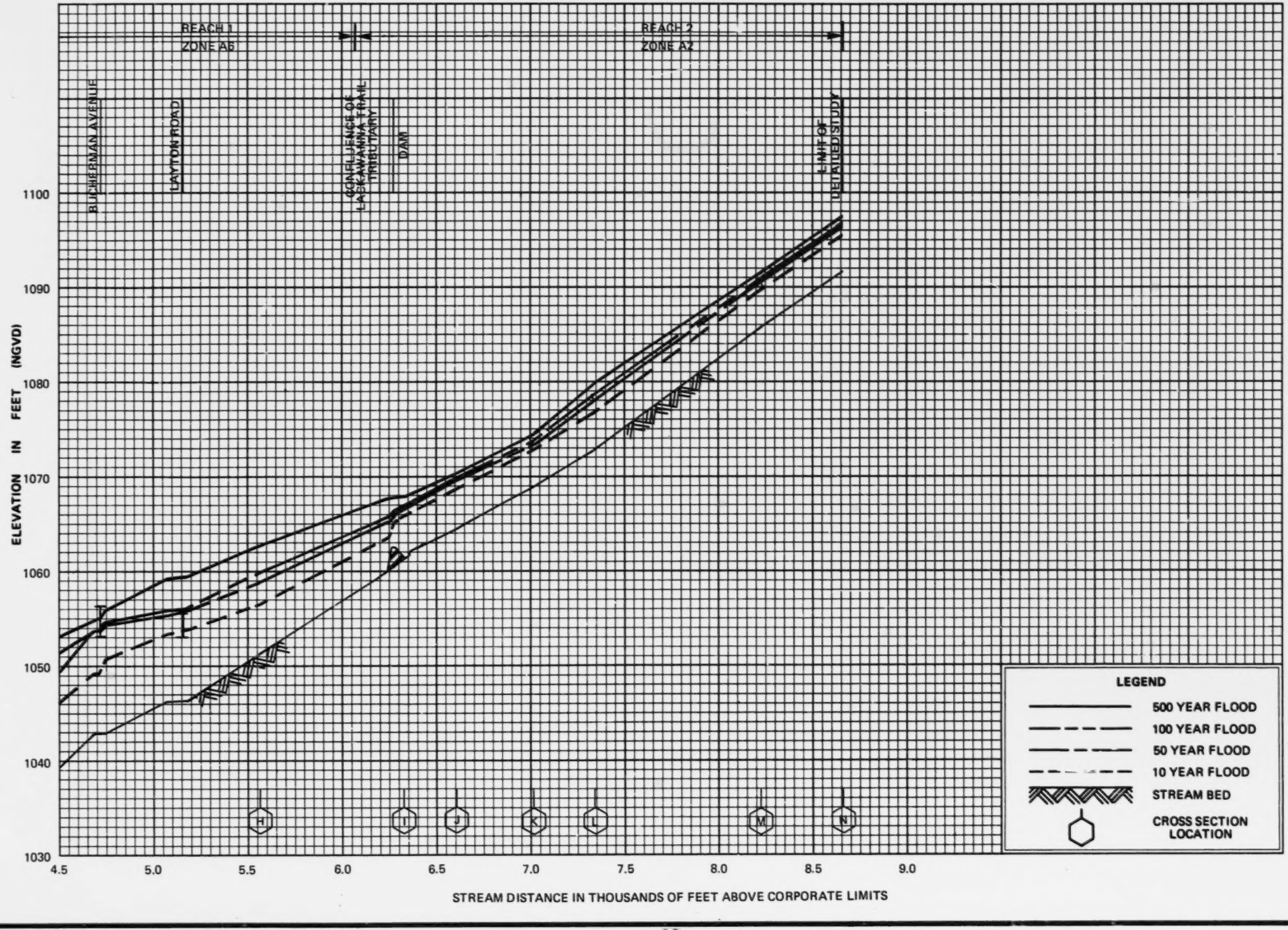

FLOOD PROFILES

LEGGETTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

02P

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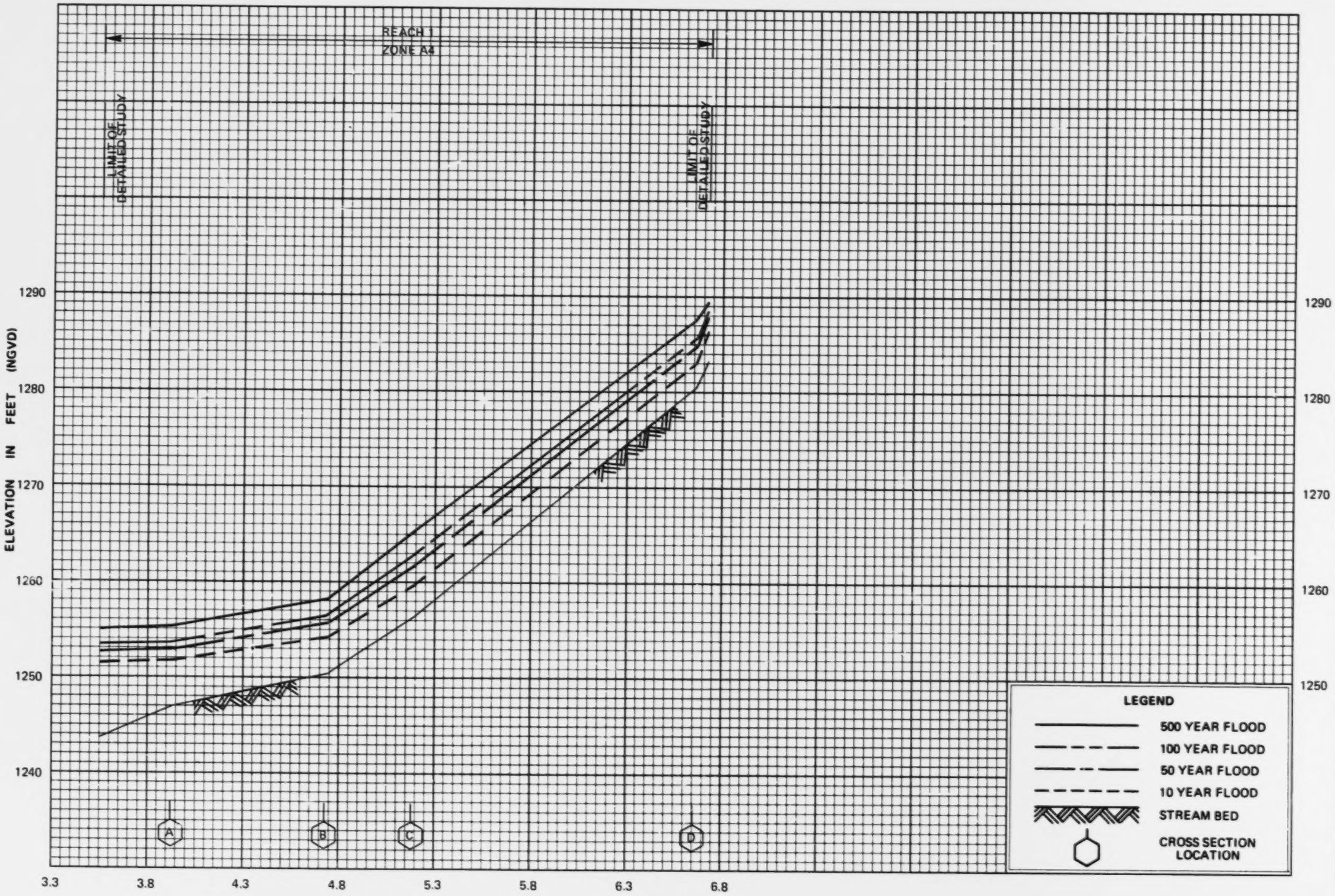

FLOOD PROFILES

SUMMIT LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

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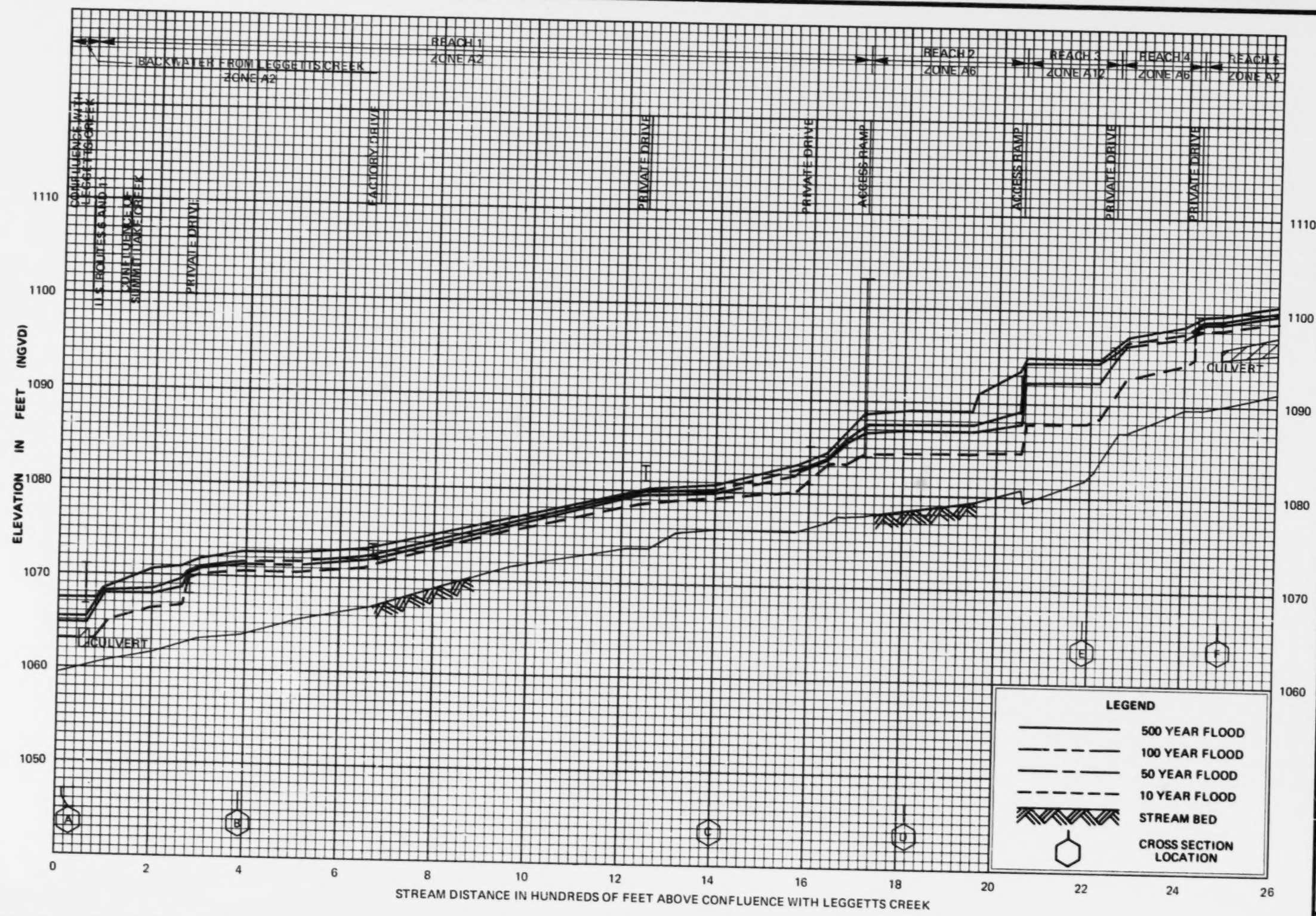

FLOOD PROFILES

LACKAWANNA TRAIL TRIBUTARY

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

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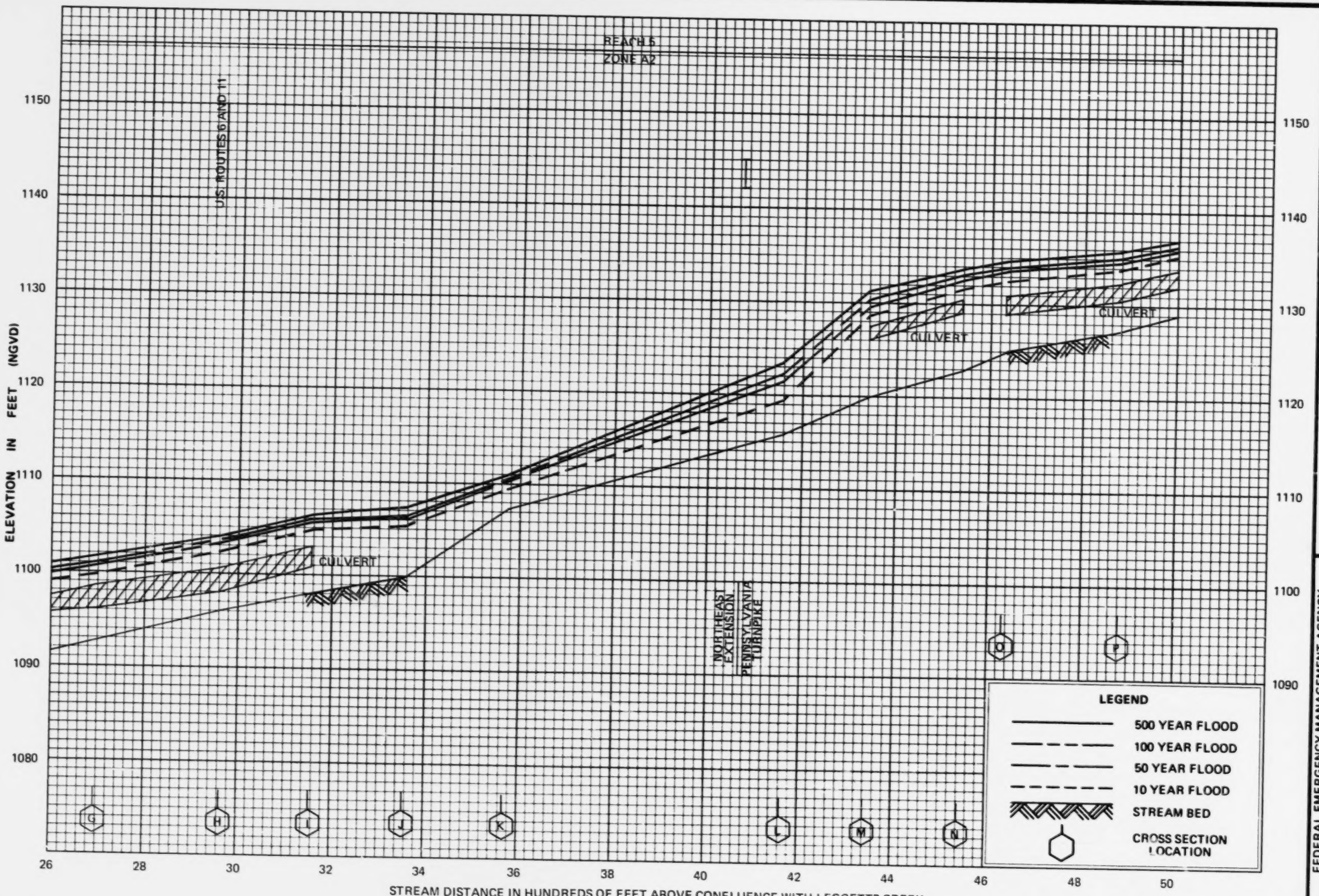

FLOOD PROFILES

LACKAWANNA TRAIL TRIBUTAIRY

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

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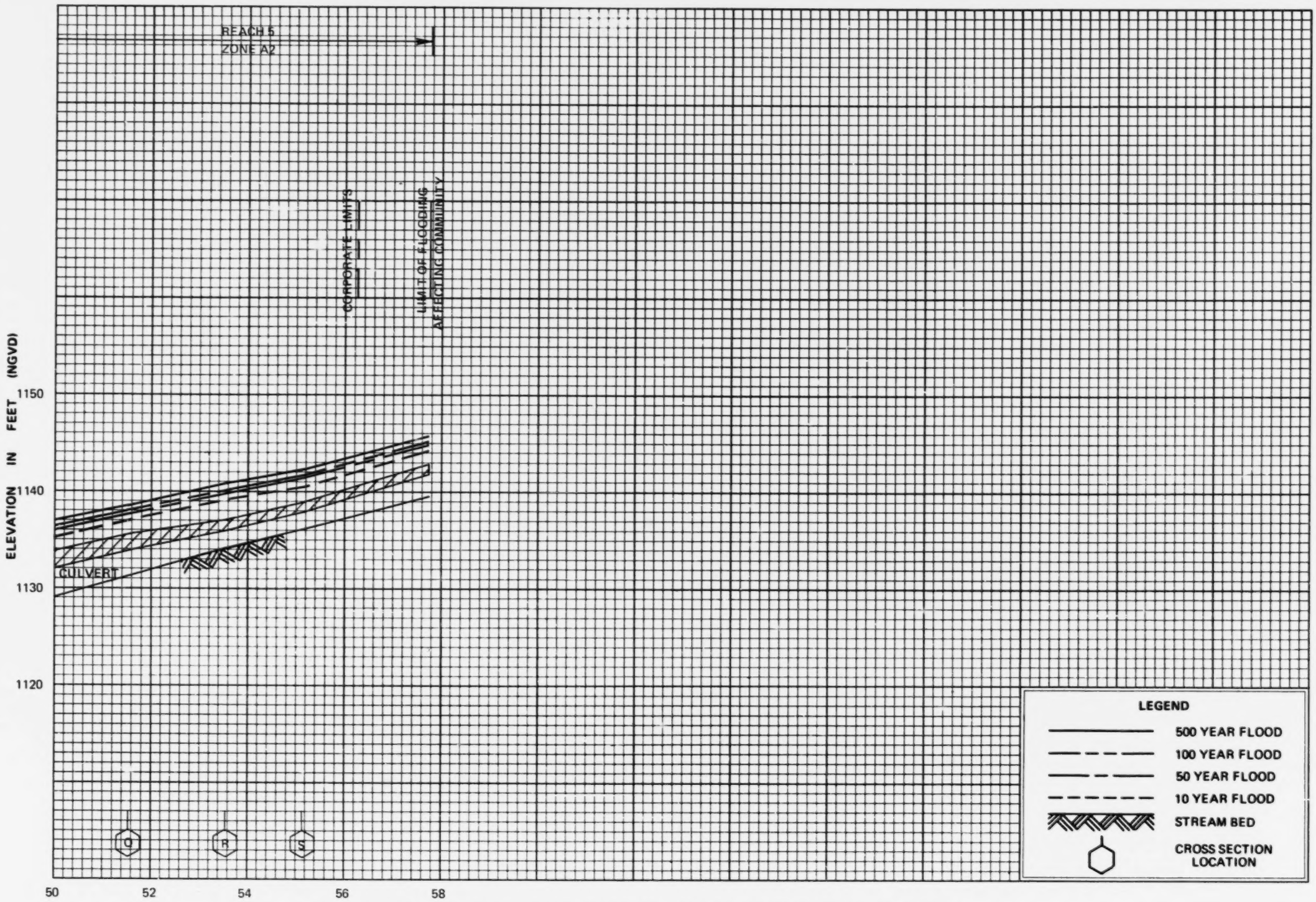

FLOOD PROFILES

LACKAWANNA TRAIL TRIBUTARY

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF SOUTH ABINGTON, PA
(LACKAWANNA CO.)

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